

# TRANSLATION

GERMAN PATENT 28 32 679  
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## COLD WASH PROCESS

### CLAIMS

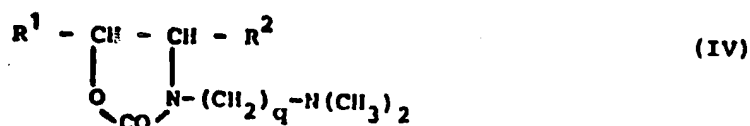
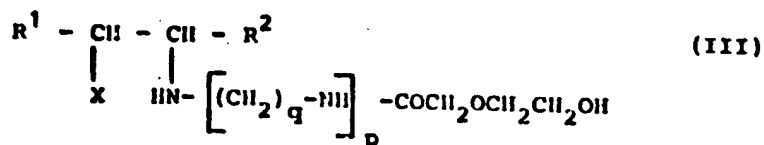
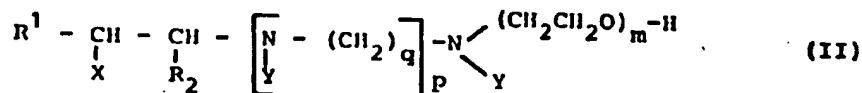
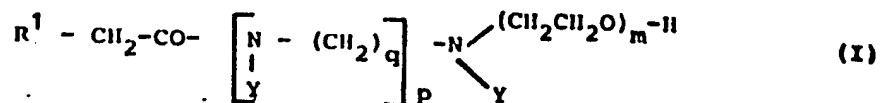
1. Low temperature machine washing process for textiles using from 2 to 12 g/l of a laundry product containing surfactants and builder salts as well as optionally bleaching agents and other laundry product components, distinguished by the fact that the load of textiles is washed with the use of a laundry product containing

A) 3 to 15 wt% of at least one nonionic surfactant, which has a hydrocarbon group of 10 to 20 carbon atoms and 3 to 20 ethylene glycol ether groups,

B) 0 to 20 wt% of at least one anionic surfactant from the group of sulfonates, sulfates and soaps, having a hydrocarbon group of 10 to 24 carbon atoms,

C) 20 to 60 wt% of at least one water soluble or water insoluble builder salt which binds alkaline earth metal ions.

D) 0.3 to 3 wt% of at least one polyamide containing hydroxyalkyl or polyalkylene glycol ether groups, having a cloud point in water - determined according to DIN 53719 - above 20°C and/or at least one compound of the following formulas



in which  $R^1$  represents an alkyl or alkenyl group of 8 to 20 carbon atoms,  $R^2$  is hydrogen or an alkyl group of 1 to 16 carbon atoms, and  $R^1 + R^2$  contain 8 to 20 carbon atoms altogether,  $X = H$ ,  $DH$  or the group  $(CH_2CH_2D)_n-H$ ,  $Y$  the group  $H$  or  $(CH_2CH_2D)_n-H$ ,  $m = 1$  to 3, and  $p = 0$  or 1 and  $q = 2$  or 3,

E) 0.05 to 1 wt% of a suds suppressing dimethyl polysiloxane,

F) 0 to 40 wt% of other laundry product components,

in a wash liquor ratio (kg textile load to liter wash liquor) of 1 : 3 to 1 : 30 for a time period of 20 to 75 minutes ( $= t^1$ ) at a temperature of 15 to 35°C ( $= t^2$ ), and the sum of the non-dimensional figures  $t^1 + t^2 = 35$  to 90, and the wash load is mechanically agitated during at least a third of the washing time, periodically interrupted by periods of rest.

2. Process according to Claim 1, distinguished by the fact that the use concentration of the laundry product is 4 to 10 g/l.

3. Process according to Claims 1 and 2, distinguished by the fact that the wash liquor ratio is 1 : 4 to 1 : 20.

4. Process according to Claims 1 to 3, distinguished by the fact that the wash period is 30 to 60 minutes, the temperature is 20 to 30°C and the sum of  $t^1 + t^2 = 50$  to 80.

5. Process according to Claims 1 to 4, distinguished by the fact that the wash load is mechanically agitated during half of the washing time, periodically interrupted by rest periods.

6. Process according to Claims 1 to 5, distinguished by the fact that the washing is done using a laundry product in which the component (A) consist of a mixture of ethoxylated primary alcohols which have 12 to 18 C atoms, with a low ethoxylated portion having 3 to 6 glycol ether groups and a highly ethoxylated portion having 7 to 16 glycol ether groups and the weight ratio of low to high ethoxylated portions being 5 : 1 to 1 : 5.

7. Process according to Claims 1 to 6, distinguished by the fact that the washing is done using a laundry product in which the component (B) is contained in a proportion of 1 to 15 wt% and consists of an alkylbenzene sulfonate having 8 to 13 C atoms in the alkyl chain and/or an alkane sulfonate having 12 to 18 C atoms and/or a soap having 12 to 18 carbon atoms.

8. Process according to Claims 1 to 7, distinguished by the fact that the washing is done using a laundry product in which the component (C) consists of an alkali metal polyphosphate and/or the alkali metal salts of an aminopolycarboxylic acid or polyphosphonic acid and/or a water containing sodium aluminosilicate of the formula  $(Na_2O)_x \cdot Al_2O_3 \cdot (SiO_2)_y$  with  $x = 0.7 - 1.5$  and  $y = 0.8$  to 6.